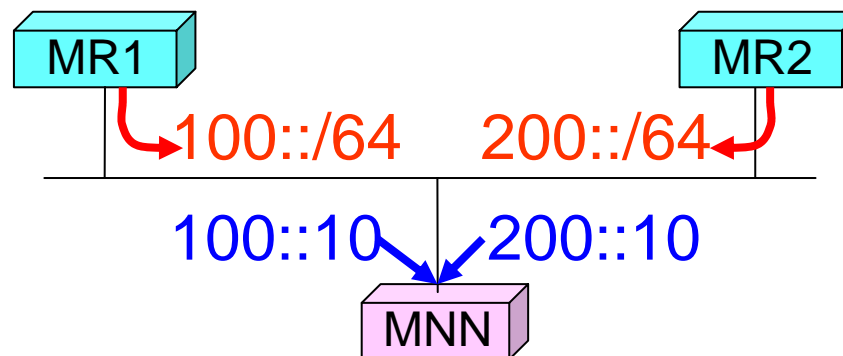# Token based Duplicate Network Detection for split mobile network
draft-kumazawa-nemo-tbdnd-00.txt

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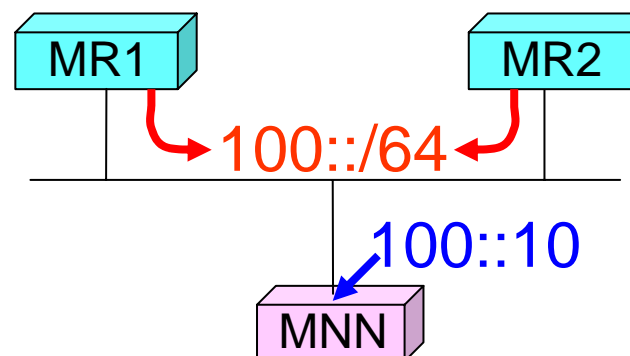
Sathya Narayanan

1. Why is (n,*,1) useful? (MR,HA,Prefix)

(n,*,n): 1 prefix / MR
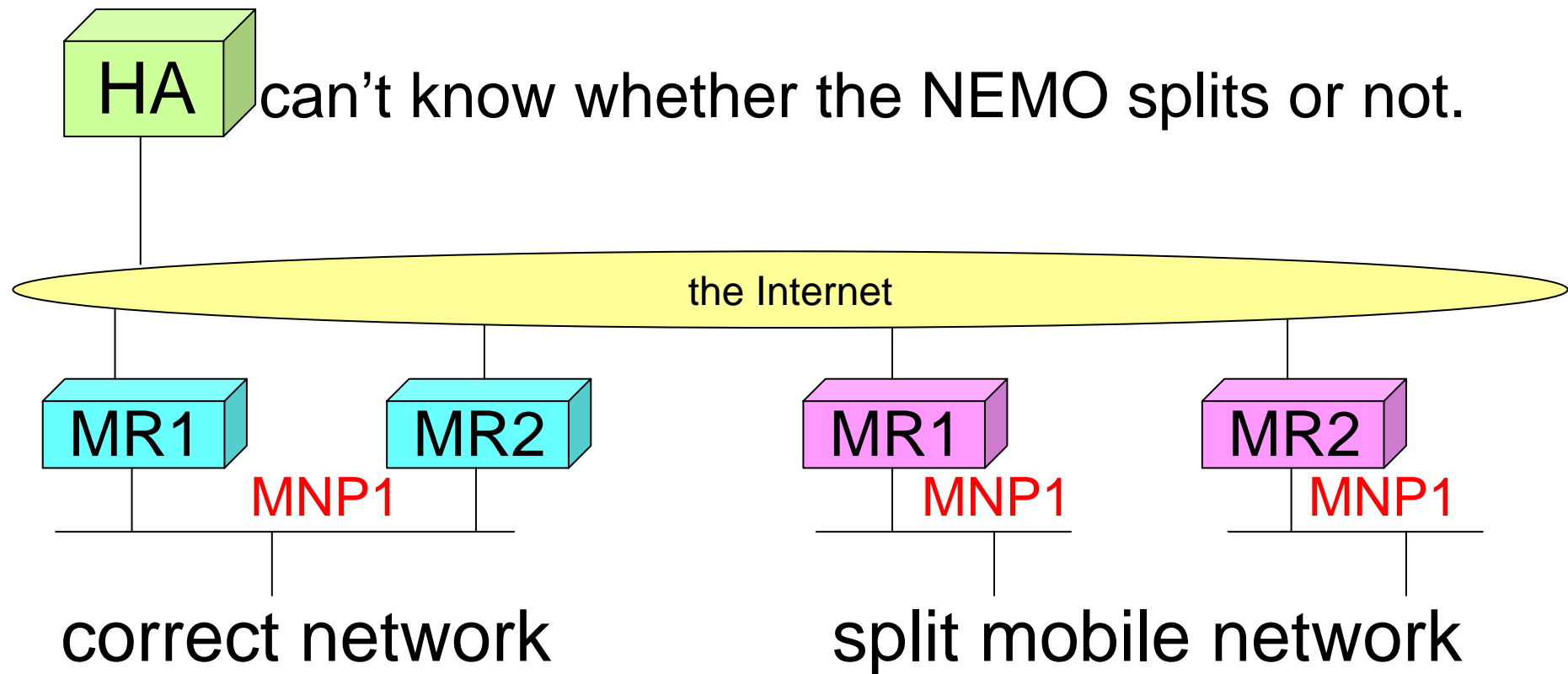
MR1   MR2

100::/64   200::/64

100::10   200::10

MNN

multihoming solution may be necessary for MNNs

(n,*,1) : 1 prefix / NEMO

MR1   MR2

100::/64

100::10

MNN

multihoming solution is not necessary for MNNs

2. Problem of (n,*,1) : split mobile network

HA can't know whether the NEMO splits or not.

the Internet

MR1 MR2   MR1   MR2

MNP1   MNP1   MNP1

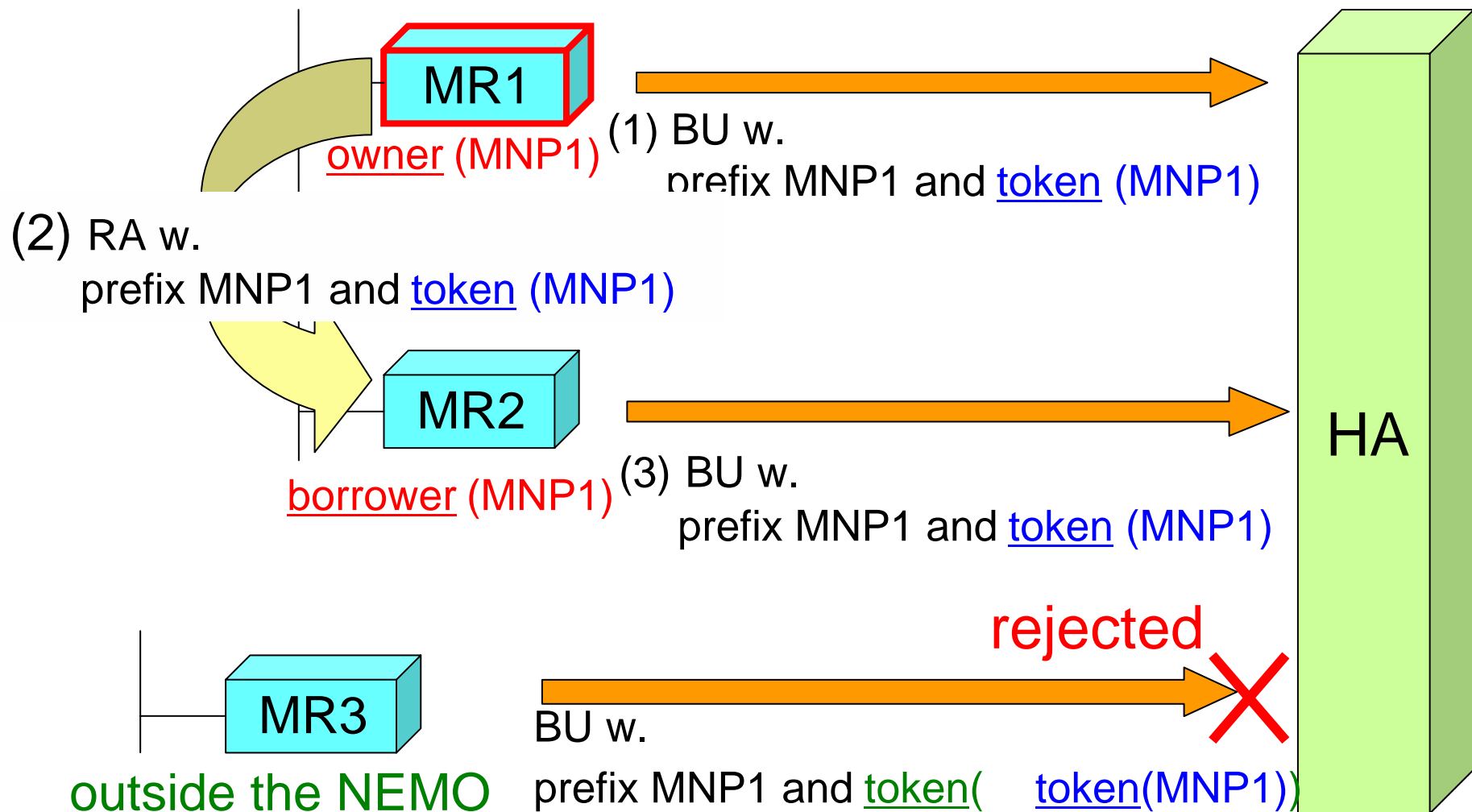correct network   split mobile network

Possible problems

-A User leaves a MR switched on at home.

-A rogue MR redirects packets.

3. Token based DND -basic idea

MR1

owner (MNP1)

(1) BU w.
prefix MNP1 and token (MNP1)

(2) RA w.
prefix MNP1 and token (MNP1)

MR2

borrower (MNP1)

(3) BU w.
prefix MNP1 and token (MNP1)

HA

rejected

MR3

outside the NEMO

BU w.
prefix MNP1 and token(token(MNP1))

Token (MNP1) is generated and updated regularly by owner or HA.

4 Discussions in Working Group

- Issue 37:
  "Assigning same MNP to different MRs"
  - (N,*,1) is simple and useful since it doesn't require host multihoming solutions.

  - However, it has problems when the NEMO splits.

  - Some solutions have been already proposed for DND test.

- Token based DND
  - Main advantage of Token based DND is "connection between MR1 (owner) and HA need not be active when MR2 (borrower) wants to support the same prefix.